Images in Cardiovascular Medicine

Massive Pulmonary Embolus

with Pre-Existing Inferior Vena Caval Filter

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A 54-year-old man weighing 330 lb experienced chest pain and collapsed 1 week after repair of an abdominal hernia. On examination, the patient was found to have hypotension, tachycardia, marked arterial oxygen desaturation, and a sense of impending doom. He had a history of lower-extremity deep venous thrombosis, for which he had undergone placement of a Greenfield inferior vena caval filter 7 years earlier. Spiral computed tomographic chest imaging revealed a saddle embolus of the pulmonary artery (Fig. 1). During an emergency pulmonary embolectomy, we compressed the lungs, thereby delivering a massive clot from the pulmonary arteriotomy. The clot formed a nearly perfect cast of the pulmonary vasculature, including the segmental arteries (Fig. 2). Postoperative echocardiography showed normal cardiac function and no residual pulmonary hypertension. Lifelong warfarin therapy was recommended.

This case illustrates some important points regarding the management of pulmonary emboli. With appropriate clinical findings, evaluation for pulmonary emboli should proceed, even in the setting of a pre-existing inferior vena caval filter. Spiral computed tomographic imaging enables rapid diagnosis of pulmonary emboli in patients with hemodynamic instability. Finally, although thrombolytic agents have become the mainstay of treatment for pulmonary emboli, the positive results that are possible with surgical intervention should not be overlooked—particularly for patients who have massive pulmonary emboli.

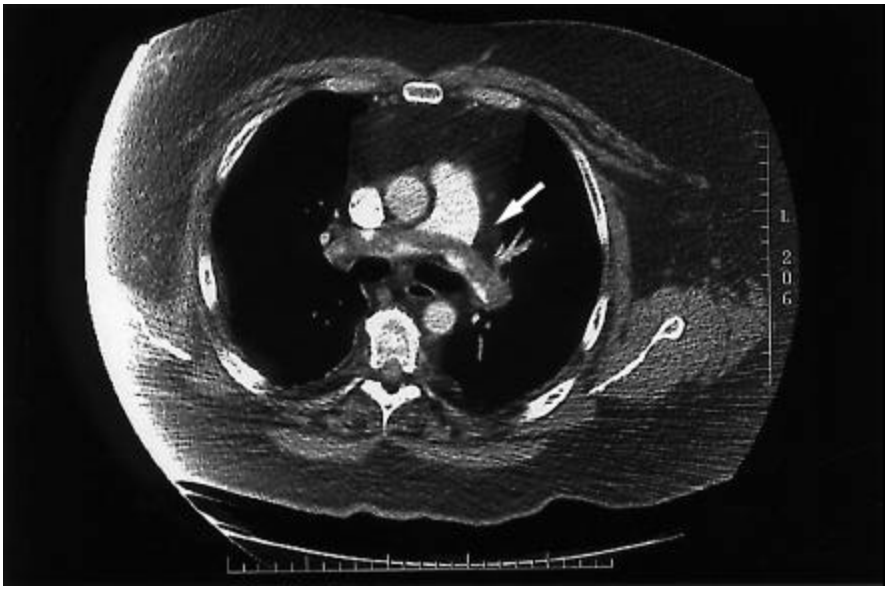

Fig. 1 *Spiral computed tomographic chest imaging with intravenous contrast material shows a massive filling defect that involves the right, left, and main pulmonary arteries.*

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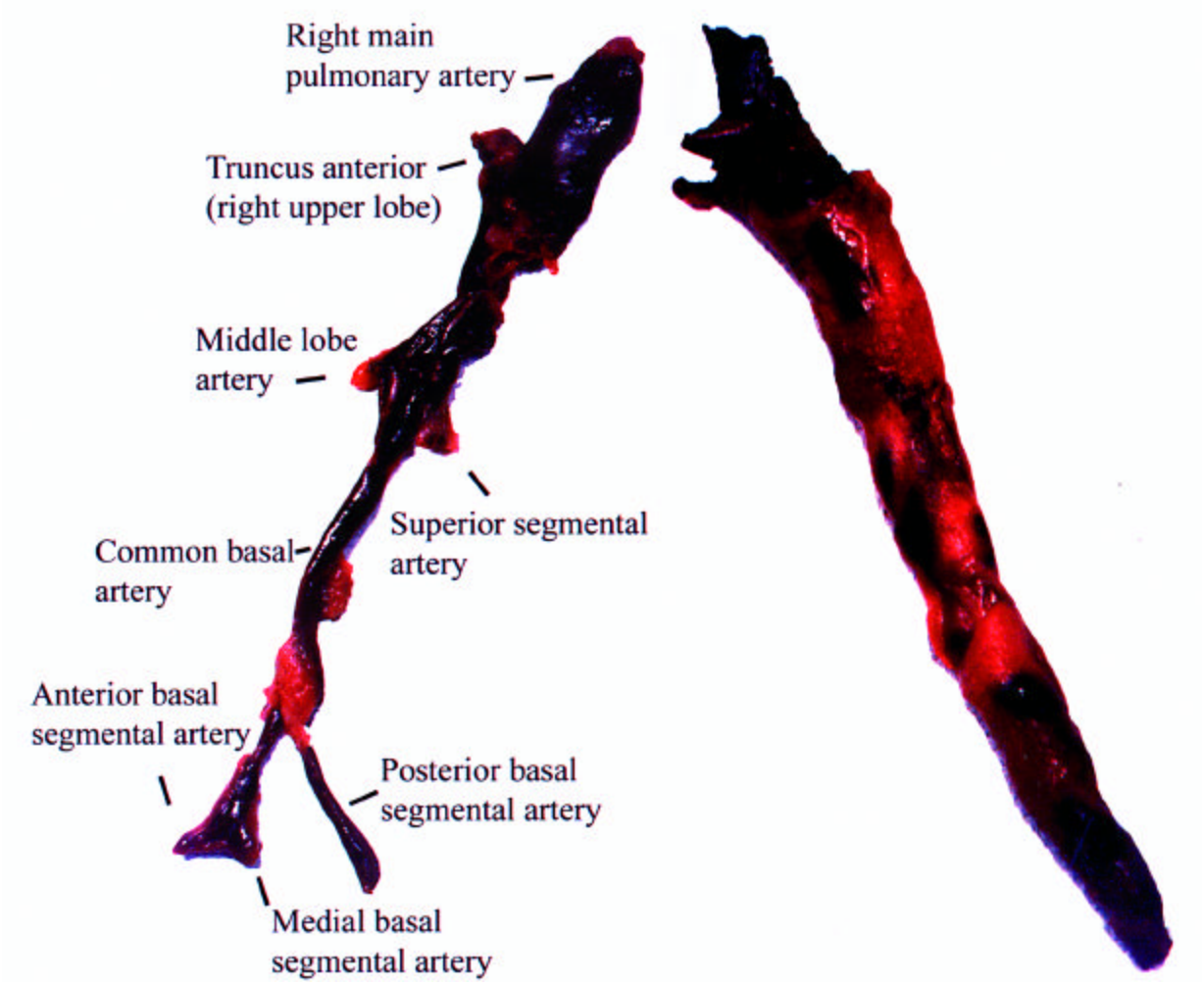

Fig. 2 *Photograph of the saddle pulmonary embolus removed from the main pulmonary artery. The thrombus on the left side of the photo emerged from the right pulmonary artery, and the thrombus on the right emerged from the left pulmonary artery.*